REMARKS

Claims 1 through 15 have been canceled. Claims 16 through 26 have been added. It is requested that the application be reconsidered and allowed in view of the amendment and the following comments.

The Office Action rejected previous claims under 35 U.S.C. 103 as being unpatentable over U.S. Patent No. 5,870,382 to Tounai et al. (the "Tounai" reference) in view of U.S. Patent 6,201,788 to Ishiwatari (the Ishiwatari reference). The references fail to disclose or suggest, either alone or in combination, the requirements of the claims.

Independent Claim 16 and dependent claims 17 through 22

The Tounai reference fails to disclose, *inter alia*, the requirement of claim 16 of, "switching the selected ones of the working and protection channels through one or more pre-determined matrix connections in a matrix in the transmission switch, wherein the pre-determined matrix connections are not disrupted due to the selection at the input interface between the working and protection channels." The Tounai reference is an ATM permanent bridge for terminating lines, as described at column 3, line 38 and column 4, lines 3 through 5. The Tounai reference does not illustrate that matrix connections that are not disrupted. As stated in the Office Action at page 3 second paragraph, Tounai fails to disclose switching matrix operable to output selected on of inbound working and protection channel, maintaining connections regardless of channel selected.

The Ishiwatari reference fails to add to the teachings of the Tounai reference to meet the requirements of the claims. The Office Action cites column 4, lines 6 through 37 of the Ishiwatari reference that describes a "loop back formation" as part of a BLSR method. On page 4 of the Office Action, it states that the "Loop back formation is made such that the working channels in fiber cable (Figure 9B, element 11_1) via signals are received from transmission device (Figure 9B, element 10C) are coupled to the protection chennels (element 11_2) via which

signals sent to transmission device 10C and then making a loop-back where protection channels are coupled to the working channels extending from transmssion 10D. See column 4, lines 6-37." As stated in this quotation from the office action, there must be a disruption of the matrix connections in order to make the loopback formation and connect the working channel to the protection channels. This disruption of the matrix connections is stated in the Ishiwatari reference at column 13, lines 12 through 20:

> "FIG. 16 shows the above-mentioned loop-back operation of the transmission device 20A explained with reference to FIG.15. Under the control of the microcomputer 50, the switch 26b performs the switch operation to make a route for outputting the west-side input to the extracting part 37a located on the east side. The bridge part 39b performs the bridge operation to make a route for outputting the east-side input to the west-side."

Thus, the loop back operation in the Ishiwatari reference cited in the Office Action requires that the switch perform a switch operation and disrupt the matrix connections. The Ishiwatari reference thus teaches away from the requirement of claim 16 of, "switching the selected ones of the working and protection channels through one or more pre-determined matrix connections in a matrix in the transmission switch, wherein the pre-determined matrix connections are not disrupted due to the selection at the input interface between the working and protection channels."

Finally, the combination of the Ishiwatari reference and the Tounai reference fail to suggest the requirements of the claims. Both fail to disclose that pre-determined matrix connections are not disrupted due to the selection at the input interface between the working and protection channels. Furthermore, the problem solved by the present invention that cross-connection algorithms generally take more time to complete is not disclosed. With no suggestion of the problem, there is no suggestion to combine the Tounai reference or to modify the Ishiwatari reference to meet the requirements of the claims.

Independent Claim 23 and dependent claim 24

The Tounai reference and the Ishiwatari reference, either alone or in combination, fail to disclose the requirement, *inter alia*, of claim 23 of, "in response to a line failure, routing information on inbound working channel to outbound protection channel and routing information on inbound protection channel to outbound working channel at an input/output interface, wherein routing of the working and protection channels at the input/output interface prevents information from being provided to the matrix such that the matrix connections are not disrupted." As explained above, The Tounai reference is an ATM permanent bridge for terminating lines, as described at column 3, line 38 and column 4, lines 3 through 5. The Tounai reference does not illustrate a matrix connections that are not disrupted. As stated in the Office Action at page 3 second paragraph, Tounai fails to disclose switching matrix operable to output selected one of inbound working and protection channel, maintaining connections regardless of channel selected.

The Ishiwatari reference fails to add to the teachings of the Tounai reference to meet the requirements of the claims. The Office Action cites column 4, lines 6 through 37 of the Ishiwatari reference that describes a "loop back formation" as part of a BLSR method. On page 4 of the Office Action, it states that the "Loop back formation is made such that the working channels in fiber cable (Figure 9B, element 11_1) via signals are received from transmission device (Figure 9B, element 10C) are coupled to the protection chennels (element 11_2) via which signals sent to transmission device 10C and then making a loop-back where protection channels are coupled to the working channels extending from transmssion 10D. See column 4, lines 6-37." As stated in this quotation from the office action, there must be a disruption of the matrix connections in order to make the loopback formation and connect the working channel to the protection channels. This disruption of the matrix connections is stated in the Ishiwatari reference at column 13, lines 12 through 20:

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route for outputting the west-side input to the extracting part 37a located on the east side. The bridge part 39b performs the bridge operation to make a route for outputting the east-side input to the west-side."

Thus, the loop back operation in the Ishiwatari reference cited in the Office Action requires that the switch perform a switch operation and disrupt the matrix connections.

Finally, the combination of the Ishiwatari reference and the Tounai reference fail to suggest the requirements of the claims. Both fail to disclose that pre-determined matrix connections are not disrupted due to the selection at the input interface between the working and protection channels. Furthermore, the problem solved by the present invention that cross-connection algorithms generally take more time to complete is not disclosed. With no suggestion of the problem, there is no suggestion to combine the Tounai reference or to modify the Ishiwatari reference to meet the requirements of the claims.

Independent Claim 25 and dependent claim 26

The Tounai reference and the Ishiwatari reference, either alone or in combination, fail to disclose the requirement, inter alia, of claim 25 of, "a switching matrix that switches the selected one of the inbound working and protection channels over a pre-determined matrix connection, wherein the pre-determined matrix connection is not disrupted in response to the selection of the inbound working and protection channel." As explained above, the Tounai reference is an ATM permanent bridge for terminating lines, as described at column 3, line 38 and column 4, lines 3 through 5. The Tounai reference does not illustrate a matrix connections that are not disrupted. As stated in the Office Action at page 3 second paragraph, Tounai fails to disclose switching matrix operable to output selected one of inbound working and protection channel, maintaining connections regardless of channel selected.

The Ishiwatari reference fails to add to the teachings of the Tounai reference to meet the requirements of the claims. The Office Action cites column 4, lines 6 through 37 of the Ishiwatari reference that describes a "loop back formation" as part of a BLSR method. On page

4 of the Office Action, it states that the "Loop back formation is made such that the working channels in fiber cable (Figure 9B, element 11_1) via signals are received from transmission device (Figure 9B, element 10C) are coupled to the protection chennels (element 11_2) via which signals sent to transmission device 10C and then making a loop-back where protection channels are coupled to the working channels extending from transmssion 10D. See column 4, lines 6-37." As stated in this quotation from the office action, there must be a disruption of the matrix connections in order to make the loopback formation and connect the working channel to the protection channels. This disruption of the matrix connections is stated in the Ishiwatari reference at column 13, lines 12 through 20:

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Thus, the loop back operation in the Ishiwatari reference cited in the Office Action requires that the switch perform a switch operation and disrupt the matrix connections.

Finally, the combination of the Ishiwatari reference and the Tounai reference fail to suggest the requirements of the claims. Both fail to disclose that pre-determined matrix connections are not disrupted due to the selection at the input interface between the working and protection channels. Furthermore, the problem solved by the present invention that cross-connection algorithms generally take more time to complete is not disclosed. With no suggestion of the problem, there is no suggestion to combine the Tounai reference or to modify the Ishiwatari reference to meet the requirements of the claims.

Conclusion

For the above reasons, the foregoing amendment places the application in condition for allowance. Therefore, it is respectfully requested that the rejection of the claims be withdrawn and full allowance granted. Should the Examiner have any further comments or suggestions, please contact Jessica Smith at (972) 477-9109.

Respectfully submitted,

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